

Rev. 11/98



Docket No. STK-075

GP1646  
W/1646  
12/9

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner : Not Yet Assigned  
Group Art Unit : 1646  
Applicants : Hermann Oppermann, et al.  
Serial No. : 09/375,333  
Filed : August 16, 1999  
For : MODIFIED TGF- $\beta$  SUPERFAMILY PROTEINS

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New York, New York  
May 24, 2000

Hon. Assistant Commissioner  
for Patents  
Washington, D.C. 20231

TRANSMITTAL LETTER FOR  
INFORMATION DISCLOSURE STATEMENT

Sir:

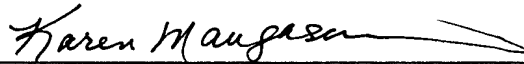
Transmitted herewith is an Information  
Disclosure Statement in the above-identified application.  
This Statement is submitted:

- ☐ within three months of the application filing  
date;
- ☒ more than three months from the application  
filing date but before the mailing date of the  
first Office Action on the merits.

In accordance with 37 C.F.R. § 1.98, submission  
of this Statement requires no fee. However, if for any  
reason a fee is due, the Commissioner is hereby

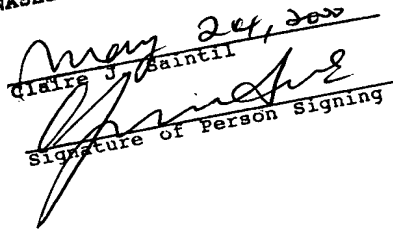
authorized to charge payment of any fees required in connection with this Information Disclosure Statement to Deposit Account No. 06-1075. A duplicate copy of this letter is transmitted herewith.

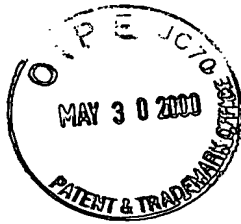
Respectfully submitted,



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STK-075

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Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. §§ 1.56 AND 1.97

Sir:

Pursuant to 37 C.F.R. §§ 1.56 and 1.97, applicants, through their attorney, make of record the documents listed below (copies enclosed herewith). A completed Form PTO-1449 listing all of the documents is enclosed herewith.

Applicants respectfully request that the documents listed below be (1) fully considered by the Examiner during the course of the examination of this application and (2) printed on any patent issuing from this application. Applicants also request that a copy of the enclosed Form PTO-1449 duly initialed by the Examiner be forwarded to the undersigned with the next communication.

### United States Patents

<u>Inventor</u>	<u>Serial No.</u>	<u>Issue Date</u>
Oppermann, et al.	5,011,691	April 30, 1991
Wolfman, et al.	5,399,677	March 21, 1995
Celeste, et al	5,658,882	August 19, 1997
Tucker, et al.	5,674,292	October 7, 1997
Wolfman, et al.	5,756,308	May 26, 1998
Lee, et al.	5,770,444	June 23, 1998
Lee, et al.	5,801,014	September 1, 1998
Wolfman, et al.	5,804,416	September 8, 1998
Kuberasampath, et al.	5,840,325	November 24, 1998

### Foreign Patent Publications

<u>Applicant</u>	<u>Publication No.</u>	<u>Publication Date</u>
Oncogen	WO89/03886 ✓	May 5, 1989
Creative BioMolecules, Inc.	WO 91/05802 ✓	May 2, 1991
Ciba Geigy AG	EP0433225A2 ✓	June 19, 1991
Oncogene Science, Inc.	WO92/00318 ✓	January 9, 1992
Creative BioMolecules, Inc.	WO92/15323 ✓	September 17, 1992
Takeda Chemical Industries, Ltd.	EP0626451A2 ✓	November 30, 1994
Biopharm Gesellschaft	DE19511243A1 ✓	April 1, 1996
Hall, et al.	WO96/39430 ✓	December 12, 1996

### Other Documents

✓Brunner, et al., Site-directed mutagenesis of cysteine residues in the pro region of the transforming growth factor  $\beta$ 1 precursor, J. Biol. Chem., 264, pp. 13660-13664 (1989).

✓Han, et al., Refolding of a recombinant collagen-targeted TGF- $\beta$ 2 fusion protein expressed in *Escherichia coli*, Protein Expression and Purification, 11, pp. 169-178 (1997).

✓Hilvert, et al., Chemical synthesis of proteins, Chem. Biol., 1, pp. 201-203 (1994).

✓ Lipscomb, et al., Context-dependent protein stabilization by methionine-to-leucine substitution shown in T4 lysozyme, Protein Sci., 7, pp. 765-773 (1998).

✓ Liu, et al., Peptide segment ligation strategy without use of protecting groups, Proc. Natl. Acad. Sci. USA, 91, pp. 6584-6588 (1994).

✓ Miranda, et al., Accelerated chemical synthesis of peptides and small proteins, Proc. Natl. Acad. Sci. USA, 96, pp. 1181-1186 (1999).

✓ Muir, et al., Expressed protein ligation: A general method for protein engineering, Proc. Natl. Acad. Sci. USA, 95, pp. 6705-6710 (1998).

✓ Nikolova, et al., Semirational design of active tumor suppressor p53 DNA binding domain with enhanced stability, Proc. Natl. Acad. Sci. USA, 95, pp. 14675-14680 (1998).

✓ Smith, et al., Automatic generation of primary sequence patterns from sets of related proteins, Proc. Natl. Acad. Sci. USA, 87, pp. 118-122 (1990).

✓ Wallace, et al., Peptide ligation and semisynthesis, Curr. Opin. Biotechnol., 6, pp. 403-410 (1995).

✓ Wang, et al., Recombinant human bone morphogenetic protein induces bone formation, Proc. Natl. Acad. Sci. USA, 87, pp. 2220-2224 (1990).

This Statement is submitted more than three months from the application filing date but before the mailing date of the first substantive Office Action. In accordance with 37 C.F.R. § 1.97, submission of this Statement requires no fee.

The Commissioner, however, is hereby authorized to charge payment of any additional fees required in connection with this Information Disclosure Statement to

Deposit Account No. 06-1075. A duplicate copy of this letter is transmitted herewith.

Respectfully submitted,

*Karen Mangasarian*

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*May 24, 2000*  
*Claire J. Saintil*  
*[Signature]*  
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